



TECHNISCHE HOCHSCHULE  
OSTWESTFALEN-LIPPE  
UNIVERSITY OF  
APPLIED SCIENCES  
AND ARTS

# Mobility Centre UrbanLand: Coupling Hydrogen, DC Grids and sustainable Mobility in Integrated System Experiments



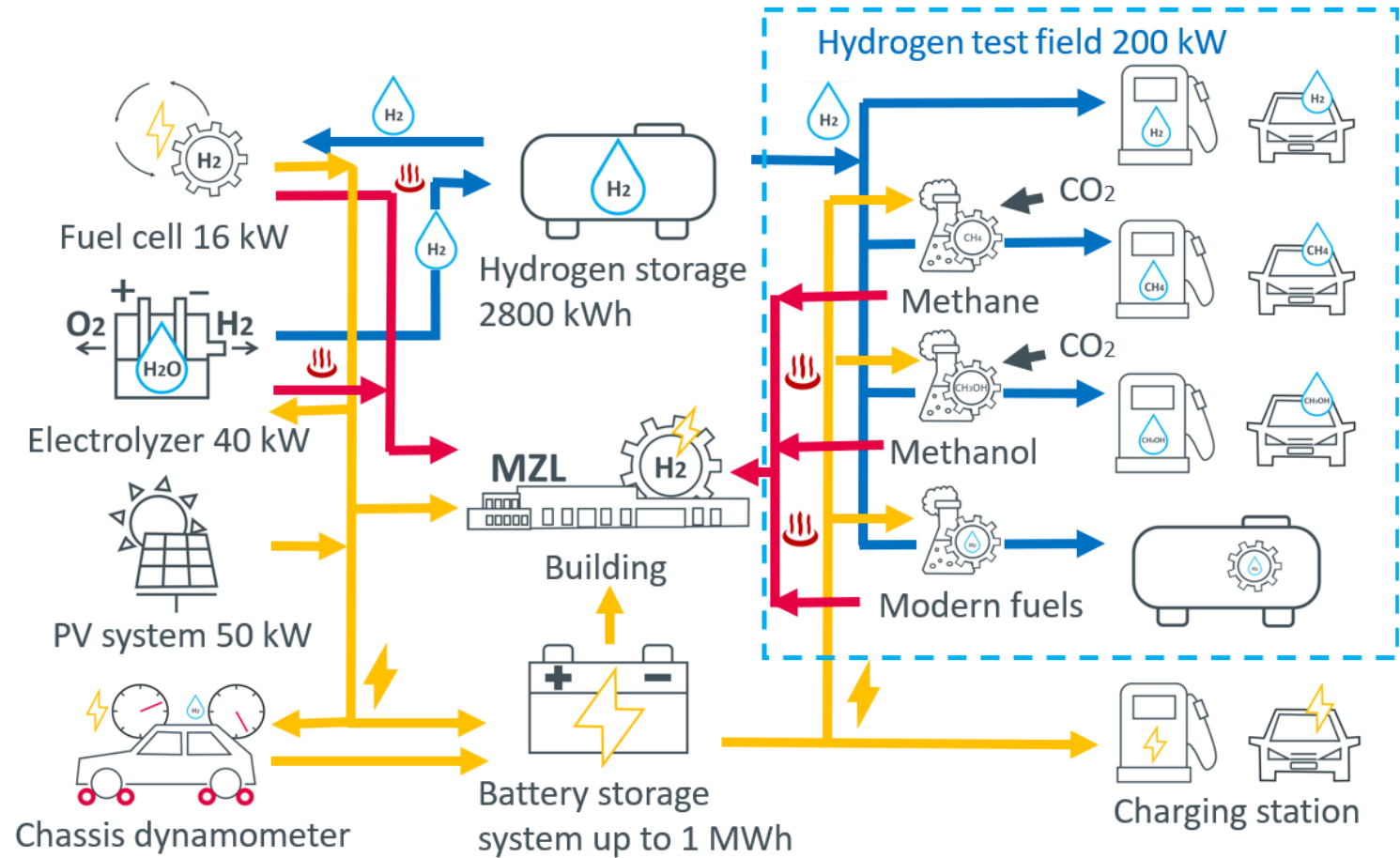
**Martin Griese**, Hauke Hering, Guido Langer

Successful R&I in Europe 2026: 13th European Networking Event

Düsseldorf, 19 Feb. 2026

# Mobility Centre UrbanLand

- New research infrastructure
- Flexible multi energy grids
  - DC grid
  - H<sub>2</sub> grid
  - Heat grid
  - Utility fluids
- Large scale testbeds
  - H<sub>2</sub> test field
  - Charging test field
  - Battery test field
  - Vehicle test field



## ➤ Integrated System Experiments

# Current Projects

## DC POWER

- HORIZON EUROPE Project - Cluster 5
- 9,3 M€ total budget
- 1/2024 – 12/2027
- Novel power distribution concept with **Medium Voltage DC grids (3000 V)**
- Power electronics, System control, Pilot demonstration (Data center, Electrolysis) Standardisation, Protections



AnyPLACE

## SMART-E-FACTORY

- National German Funding
- 2,1 M€ total budget
- 1/2023 – 6/2026
- AI based real time energy transparency and peak load reduction for **energy efficient production** scheduling and operation.
- Energy management, Digital twin, DC power distribution, real-time energy data and optimization, structure and process optimization, industrial living lab („SmartFactoryOWL“)



Gefördert durch:



# Project opportunities with MZL

## Research and validation capabilities at MZL

- Sector-coupled research on renewable energy carriers and post-fossil mobility systems
- Digital twins plus hardware in the loop for fuels, infrastructure and mobility services
- System level validation using KPIs across energy supply chains and transport modes
- Replication, knowledge transfer and regional outreach for rural transformation

## What we are looking for

- Use cases and components from industry (H2 technologies, power electronics, rail)
- Regional reference sites and operators (municipalities, authorities)
- Digitalization partners (data interoperability, digital twins, OT cybersecurity, verification and validation)
- Research partners in energy systems, mobility and AI for joint method development
- Horizon Europe coordinators or experienced proposal leads

# Horizon Calls

## Cluster 5 Calls

- **HORIZON-CL5-2026-03-D3-21:** Novel solutions for off-grid storage of renewable energy for critical infrastructures (**deadline: 31.03.**)
- **HORIZON-CL5-2026-05-D5-01:** Large-scale demonstration of Heavy-Duty Battery Electric Vehicles (HD BEV) towards long-haul logistics operations (**deadline: 14.04.**)
- **HORIZON-CL5-2026-09-D4-08:** Full-scale demonstration of heat upgrade solutions in industrial processes (**deadline: 15.09.**)
- **HORIZON-CL5-2026-10-D6-03:** Generative AI for smarter CCAM: enhancing perception, decision-making, and validation (**deadline: 08.10.**)

## Our possible contribution

Energy management + Structure optimization + HIL validation + Digital twin

High power charging + DC backbone + Grid and storage interaction + HIL validation

Energy system coupling (Heat – DC) + System level optimization + Digital twin validation

MONOCAB use case + Research in perception + Research space for rail-road mixed traffic

## HYDROGEN-JU-Calls

- **HORIZON-JU-CLEANH2-2026-05-02:** Pre-Normative Research on hydrogen odourisation: enhancing safety and detection along the hydrogen value chain (**deadline: 15.04.**)
- **HORIZON-JU-CLEANH2-2026-01-03:** Improved components and tools to increase the safety of electrolyzers (**deadline: 15.04.**)
- **HORIZON-JU-CLEANH2-2026-06-02:** Small-scale Hydrogen Valleys (**deadline: 15.04.**)

Real-environment H<sub>2</sub> testbed + material and component evaluation + permeability tests

Component safety validation + Digital twin integration

BoP testing and validation + Public visibility

➤ **Not limited to these Calls!**



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